International Journal of Business
Management & Research (IJBMR)
ISSN(P): 2249-6920; ISSN(E): 2249-8036
Vol. 5, Issue 4, Aug 2015, 29-44

THE EFFECTIVENESS OF QUALITY MANAGEMENT IMPLEMENTATION THE IMPACT FACTORS FROM EGYPTIAN MANAGERS PERSPECTIVES

YASSER AL TAYEB

Assistant Professor, Department of Quality Management and Innovation, Applied Science University

Manama, Bahrain

Full Time Lecturer, Al Azhar University Cairo, Egypt

ABSTRACT

Purpose: The question as how quality management can be effectively implemented by quality managers in an organization is raised by quality management literature. Empirical studies indicate that specific constrains lead to quality managers' failures in quality management implementation. These failures are ranging from organizational issues to personal- dynamic issues. Researchers also argue that quality managers have been ineffective in their quality implementation role, because they are influenced by a number of barriers or factors that lead them to perform quality management ineffectively. The aim of this research paper is to empirically identify those factors stated in literature that influence quality managers in performing an effective role of quality management implementation.

Design/Methodology/Approach: The researcher firstly conducted 3 in-depth Egyptian case studies as a field research to develop a conceptual framework in which these factors are proposed. Secondly, the researcher conducted an empirical survey to investigate quality managers' perceptions in the reality and then determine which of these factors are mostly perceived by quality managers when they implement quality management practices and activities. The empirical survey covered 130 quality managers in the Egyptian manufacturing companies in different industries.

Findings: Empirical results show that quality managers in Egypt perceive four factors influencing their effective role in quality management implementation. These multi-factors are influencing managers' attitudes of being effective or ineffective in their quality implementation role although they still try to do their best. These factors are motivation, resources capacity, top management support and finally quality policies and procedures. The researcher concludes also that these factors have an impact on the effectiveness of quality management implementation but not as a casual relationship.

Originality/Value: Based on the research new framework factors, Egyptian organizations can support their managers in improving their implementations abilities of quality management.

KEYWORDS: Quality Management Implementation, Quality Managers, Case Study, Egyptian Manufacturing Companies, Empirical Survey

INTRODUCTION

Role of Managers in Quality Management Implementation

Quality managers have an important role regarding to quality management implementation in organizations as they are responsible for implementing quality concepts, principles and practices at the operational level. In this research; transforming the concepts and principles into a system and then realizing it through practices and activities are referred as

quality management implementation. Correspondingly, quality managers are persons at the operational level, who manage a team of operational employees on a day-to-day basis and who are responsible for performing quality management activities.

As a part of their role, quality managers firstly should promote a quality management system that is necessary for internal organization effectiveness. Secondly, they provide internal improvements that also fulfill the requirements of quality management implementation. Secondly, quality managers should promote quality assurance system that includes the standardization of production processes, procedures and solving problems. In other terms continuous improvements done by managers turn the quality management system into quality assurance system that builds the organizational capabilities for successful quality practices (Contie 2010; Dickenson et al. 2000).

Quality managers are in a position in which they are responsible for operational output, as well as for the performance of their teams. To draw the best performance, quality managers are supposed to perform quality management activities by using quality management practices. However, quality managers do not always see the need of using quality practices to achieve their organization' goals (Drew and Healy 2006). Many authors have stated that quality managers are, in fact, hesitated to take on these quality management responsibilities (Irianto 2005; Khanna et al. 2011). In his empirical research, Irianto' results (2005) indicate that quality management implementation is influenced by the way quality managers implement quality practices at the operational level, and this directly contributes to its whole effectiveness.

In addition, Irianto finds that when investigating the effectiveness of quality management implementation, quality studies empirically overlook the different types of factors influence the role of the quality managers in such implementation. As a result, many quality managers remain insignificant in terms of implementing quality management in effective way. Finally, Irianto concludes that quality managers may perceive a number of barriers in conforming to the fundamental quality practices and there is an empirical research need to investigate these barriers from quality manager perspectives (Irianto 2005).

Research Problem Statement

In general, there is no much empirical knowledge of the factors that may influence quality managers in their quality management implementation role (Parast 2013; Zu 2013). In particular, it seems also that is no research findings that had been empirically done in the Egyptian manufacturing companies on constrains/barriers factors influence quality managers in their function of quality management implementation (Ali 1998) .

RESEARCH QUESTION

The Following Question will be Direct this Empirical Research

What factors do quality managers in the Egyptian companies perceive that prevent their implementation effectiveness of quality management?

Objectives of the Research

- To describe and examine factors that quality managers perceive and experience in quality management implementation in the Egyptian companies.
- To identify and empirically examine a conceptual framework of such factors in the Egyptian manufacturing companies

- To present recommendations for further research

Literature Review Barriers/Factors Influence Quality Managers

Quality management researchers have primarily investigated the relationship between quality management practices and activities (Lagrosen 2003, 2007), whereas the implementation effectiveness of quality management from managers perspective has attracted only limited attention. However, some constraints facing quality managers in effective quality management implementation were identified in the literature (Badri et al. 1995; Pronovost 2013).

In recent years, scholars have dedicated attention towards demonstrating a linkage between quality management and organization performance. Effective quality management implantation can help an organization achieve a competitive advantage and so improve its performance (white et al 2009). The effectiveness of quality implantation depends on the quality practices and activities (Lagrosen 2003, 2007). However, even if quality practices were believed to be effective, the quality management system might still not be effective because quality managers do not know how to implement quality management practices successfully on the daily work.

Therefore, there is a need to study the challenges that quality managers face when implementing quality management processes, as these can influence the effectiveness of the whole quality management system. Recent quality management literatures categorize a number of factors or constraints in implementing quality management related to the quality managers role such as: lack of experience, lack of knowledge, poor desire or motivation, lack of management support, lack of feedback about practices, unequal standards (Xiaofen 3013; Xingxing 2009), and limited understanding of organization policies and procedures (Xiaofen 3013;). Most of current researches are based on single or multiple case studies and, as such, it did not discover and examine more factors or barriers that potentially hinder quality managers in implementing quality practices and activities. However, since these are individual case studies, the existing quality management researches do not combine identified and found factors or barriers into one consistent model that empirically can test the relevance of all these factors in implementing quality management. While this recent quality management literature generates useful insights into the constraints facing quality managers in different organizations, it also lacks a theoretically and empirically validated measurement instrument. Currently, no variables have been constructed and developed in the quality management literature to measure factors in executing quality management practices. Accordingly, the aim of this research is to develop reliable scales that measure the factors influencing effective quality management implementation.

In the following literature review parts the researcher summarizes most factors or barriers that may hinder quality managers as stated in quality management literature in general and Irianto (2005) theory of quality management in specific:

Lack of Quality Managers Desire or Motivation among quality managers is an essential precondition to successful quality management implementation. While some experienced managers are fully committed to their quality responsibilities, many are not. This is mainly true of situations where union involvement, organizational change, downsizing and reengineering play large role. For instance unions always bring idea of entitlement and materialism (e.g. working for minimum salary). This low level of motivation or personal unwilling of quality managers can result from a lack of either personal or organizational incentives (McGovern et al. 1997; Guay et al., 2000; Ryan & Deci, 2000) . Quality managers are not always sufficiently willing to take on quality management responsibilities or that their desire or motivation to do so is lacking highlights a lack of personal incentives for using quality practices and activities (Xiaofen

3013). Organizational incentives can influence quality managers to give quality management activities serious consideration (Xiaofen 3013; Xingxing 2009), e.g. by making quality responsibilities an essential part of quality managers' own performance evaluations.

Lack of Resources for quality management implementation: quality managers need staffing, and time as resources to implement quality management successfully within their companies. Quality management tasks are generally devolved to quality managers without reducing their other duties (Reilly, 1982; Zu et al 2011). Quality managers find constrains imposed on achieving quality management because of resources limitations. This implies that quality managers might not be able to devote enough effort to quality management especially when short-term operational pressures control.

Lack of Top Management Support: there is a need for training, and support behavior from top managers for successful quality management implementation. If top managers are unable or unwilling to provide clear and proactive support, quality managers will lack sufficient quality management skills. Quality managers' competences in performing quality management activities can be developed through training. Some authors have shown the need for continual and systematic training in quality management activities (Rohitratana and Boon-itt 2001). Unfortunately, uncertain competences, poor training opportunities and lack of standards education are reported in literature. Sany et al. (2013) argues that training is not related to quality managers' needs and not evaluated in terms of applicability either**.** In addition, quality managers need advice and coaching behaviors from top management on how to perform quality management activities. However, some top managers are not able to provide quality managers with the support they need, or are reluctant to abandon their responsibilities and play a new organizational role in supporting quality managers.

Lack of Quality Management Policies: there is a need for a clear and understandable overall quality management policies and accompanying procedures to coordinate which practices quality managers should use and the way they should do so at the operational level. These policies are necessary for cost effective production, quality control programme, improving and getting quality ratings (Irianto 2005). Furthermore, the quality polices are necessary to consult quality managers about the decentralization of their responsibilities and prevent that they become unclear about their roles (Irianto 2005). Clear policies remove subjective judgment and potential bias in – and interpretation of – quality management practices by defining the way in which quality activities are performed in practice.

PROPOSED CONCEPTUAL FRAMEWORK A FIELD RESEARCH

Three Egyptian Case Studies

The first part of the research was carried out within three Egyptian companies as case studies, each case is part of one of the Egyptian's biggest manufacturing companies, has product lines that include food industries, carpet, and textile . The researcher selected a total of **15** quality managers with day-to-day supervisory responsibility for teams of about 10 to 15 operational employees and the relevant quality management responsibilities in various operational departments of the different chosen cases. The number of quality managers selected per each case was evenly distributed, resulting in five managers per case. During the year 2013, the researcher conducted semi-structured interviews with the selected quality managers and three quality supervisors (one per each case). On average, each interview lasted between 1 and 2 hours.

Measures

The researcher aimed, first, to examine whether quality managers experienced the earlier recognized four constrains or factors as hindrances in their companies. In other terms, asking quality managers what made quality

management implementation difficult for them. The researcher explicitly targets the field research stream on quality management effectiveness that uses the experiences of the main involved managers and staff in the quality management implementation process. Using actual facts and problems give the researcher the opportunity to investigate how quality managers in Egypt consider their quality management role effectiveness, which challenges they go through when managing their team, and what experiences they have with carrying out quality management practices and activities. The researcher therefore asked quality managers whether they experience the main four constrains: motivation, resources, top management support and quality policies and procedures as hindering in effectively applying quality management practices. The data from the 15 interviews were qualitatively analyzed by using the across case analysis approach.

The answers given by the interviewees were transformed into results by counting the perceived hindrances per constrain at the item level. To measure the motivation factor, the quality managers' personal unwillingness to perform quality management activities was measured with the personal and institutional incentives items. For the resources factor, the researcher measured insufficient staffing, and time for performing quality management activities by comparing the actual and necessary resources that are needed for performing these activities. Insufficient training, and support behavior were observed for measuring the top management support factor. This item is based on the training courses followed and experience sub-items. Furthermore the support factor was also examined by measuring insufficient support from the top management, taking the difference between needed support behavior and received support into consideration. For the quality policies and procedures factor role un-clarity and personal understanding were used as sub-items to see if quality policies and procedures are perceived as unclear. (Table 1)

Table 1: Case Study Protocol Variables Measurement and Operationalization

Research Variables (Independents And Dependent)	Item Measured	Sub-Items	Operationalization
Motivation for Quality Management Implementation McGovern et al. 1997Ryan & Deci, 2000Guay et al., 2000	Individual willingness to implement quality management practices or activities	Personal Incentives Organizational incentives	Satisfaction in carrying out quality management role. Value added of quality management role for reaching business goals. Job description Performance appraisal
Resources for Quality Management Implementation Reilly, 1982	Role overload in terms of staff and time Sufficient time & staffing for implementing quality practices or activities	Actual number of staff and time spent Necessary number of staff and time spent	Average actual number of staff and time spent on implanting quality management practices or activities Average necessary number of staff and time spent on implementing quality practices or activities
Top Management Support for quality management Implementation Zeithaml, and Berry 1988	Sufficientsupport (training and behavior) from thetop management	Needed support (training & behavior) Received support(training and behavior)	Kind and amount of support needed Kind and amount of support received
Quality Management Policy and ProceduresRizzo et al., 1970	Clear quality policiesand procedures	Role ambiguity and unclarity Idiosyncratic understanding	Knowledge about quality management practices Concreteness of quality instruments Guidelines for quality management activities Standardisation of quality management in different departments
Quality Management Effectiveness Irianto (2005)	Satisfaction felt by managers about four quality management practices	Quality assurance Quality control Quality improvement measures and methods	

In addition to inquiring about the four factors already identified in the research, the researcher asked the respondents if they experienced any other hindering factors to explore the possibility that additional factors should be added. This proved not to be the case. To get an empirical evidence of the additional unknown factors, the researcher asked quality managers to determine from their point of view factors that they influenced as being most hindering their role and thus the elements that they would change if they could.

Field Results Cross Case Studies Approach

Quality managers in the three Egyptian cases are responsible for transforming the quality concepts and principles into an integrated quality system. In the three cases, a formal quality system had been introduced, and quality managers are responsible for assessing quality policies and strategy as a part of this quality system. In the areas of quality assurance, the quality managers share their responsibility with the top management. In addition, quality managers are responsible for quality assurance daily decisions, such as quality control, quality assurance and finally quality improvements.

The researcher qualitatively analyzed the case results in order to be able to establish and construct which factors are relevant in what mechanism and under what conditions. When looking at an average of the four factors across the three case studies, no factor is experienced as hindering by more than 2/3 of all quality managers and supervisors interviewees. In total, the four factors are identified as being barriers for effective quality management implementation. The overall result illustrates that the motivation, resources, top management support and quality policies and procedures factors are considered to be hindering to nearly the same extent. Some factors are very relevant in some cases, whereas they appear less relevant in others. Many differences are apparent regarding the quality policies and procedures, and tom management support factors, whereas all quality managers and supervisors interviewed experience nearly the same challenges with the personal motivation and resources factors. These differences will be further elaborated in the next discussion.

Motivation

No one of the 15 quality managers and supervisors the researcher interviewed shows unwillingness to perform quality management practices or activities. All quality managers perceive sufficient personal and institutional incentives to commit to their quality management tasks and responsibilities and are willing to do so. All quality managers either see an added value in applying quality management practices or they like this aspect of their responsibilities. However, the reasons for personal motivation are different. In general, quality management practices are regarded as a valuable tool for helping individual employees to grow, improve and develop, as well as for motivating and leading the quality team.

Some respondents also state that quality practices and activities are valuable tools to get “the specific person with the right abilities in the right task or role”, that they represent a structure or framework for fulfilling quality management responsibilities and symbolize uniformity in the instruments within their organizations. All quality managers within the three cases state that their quality management task is written down in the organization strategic plan and business policy. Furthermore, they also state that their quality management implementation role and responsibilities are clearly communicated throughout the whole organization. Finally when asking quality managers about what they would prioritize, it turned out that 83% rank business issues over quality implementation issues because they perceive managerial orientation. This means that when they need to decide what to do first, most aim at solving technical or business problems before solving people and personal problems.

Resources

Out of the fifteen quality managers who could indicate how much time they actually spend on quality issues, 10 respondents spend 80%, 2 spend between 60 and 70%, and 2 spend between 50 and 60%. However, one quality manager indicated that he spend much more time on quality activities, namely between 30 and 40%. When asked whether they make out the time they spend on quality practices and activities as sufficient to lead their team effectively, 10 of all 15 quality mangers said they would prefer to spend more time on quality assurance issues, whereas 6 perceived the time they spend as sufficient and 2 wanted to spend less time in order to concentrate more on business issues. Thus, in total, 10 of all quality managers interviewed experience time problems in their quality management implementation role. They pointed out that operational pressures in terms of insufficient staffing and infrastructure prevent them from performing all of the quality practices activities they are supposed to perform. The sources (time, and staffing) factors are apparent as hindering in managers at all the three cases, but it is also regarded as challenging by quality managers in all conducted cases.

Top Management Support

In total, 8 quality managers consider this factor as hindering because they do not receive the support they need. The kind of support needed is, however, different in the different three cases. If a lack of support behavior is perceived as hindering in one case, this is always perceived by most of the quality managers and supervisors interviewed. In the textile case, quality managers require support organizational arrangements behavior, whereas in other case, food case, require support on competency related matters, including advice on how to apply quality management practices. Furthermore, interviewees indicate that training is necessary to develop the right competences and experiences. Those quality managers that refer to a lack of training as a cause perceive themselves as lacking particular leadership skills, which they think they could develop by attending appropriate training courses. In general quality managers have a lack of guidance and coaching on how to apply quality management practices. In addition, quality managers feel the need to implement quality management in a way that matches with the strategic plan of the firm and quality system and assurance in it.

Quality Management Policies

In total, 9 of the 15 quality managers (one manager felt he could not evaluate the quality policies and procedures in his company) perceive the quality policies and procedures factor as hindering. All but 1 manager, who experienced difficulties with this factor, indicated personal understandings about how to apply quality management policies, whereas 2 respondents indicated hindrances because of un-clarity on which quality policies they are supposed to use. This factor is perceived as most challenging in the three of the conducted Egyptian cases. Quality managers within the three cases fail to prove concrete policies and procedures on how to standardize and formalize the performance of quality management activities within their quality teams. The causes for that are all more or less the same and they are based on an individual manager understanding. Furthermore quality managers are not provided with enough or sufficiently concrete guidelines on how to implement quality management policies on the daily life work. As a result quality managers interpret the policies according to their own understanding and experiences, although they worry that this might lead to contradiction across different organization departments. For example quality manager across the three cases do not have a handbook on which quality responsibilities are expressed.

Research Conceptual Framework and Hypotheses

The researcher concludes that the three Egyptian case studies offered valuable insights in quality managers' difficulties or barriers that they recognize in effectively implementing quality management. With the case meetings or interviews, the researcher constructed the following conceptual framework and prepared a way for asking the accurate questions in a quantitative examination as the next research step. Now, the researcher's aim is to empirically examine which of these factors are most important for the effectiveness of the quality management implementation in the Egyptian situation.

Focus of the Research

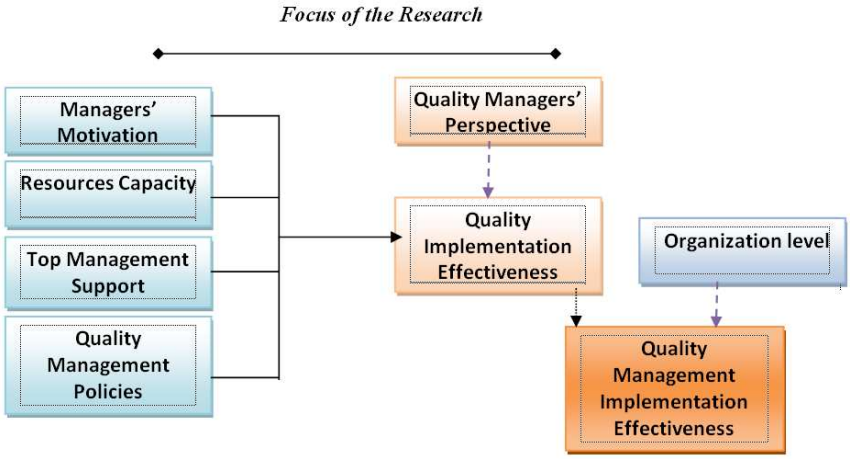

Figure 1: Research Conceptual Framework

An operationalisation of the four factors was possible after getting input from the quality managers and was essential for the construction of a research questionnaire. Now, the researcher aims to examine whether quality managers experienced the previously identified barriers. In other words, to investigate what quality managers perceive as hindering in implementing quality management. The researcher adheres to the research stream on quality management that uses the perceptions of the main individuals (managers in this research) involved in quality implementation process. The main research hypotheses are formulated as:

Hypothesis 1 The greater the motivation of quality managers to implement quality management, the more effectively they will implement quality management at the operational level.

Hypothesis 2 The greater the resources capacity that quality managers are given on implementing quality management, the more effectively they will implement quality management at the operational level.

Hypothesis 3 The more top management support that quality managers perceive, the more effectively they will implement quality management at the operational level.

Hypothesis 4 The greater the number of clear quality policies and procedures that quality managers perceive they receive, the more effectively they will implement quality management at the operational level.

The Questionnaire and Variables Measures

The researcher relied on existing variables' scales from quality management research fields that had been found to be valid and reliable. As a result the researcher retested research questionnaire with variables' reliability and validity and modified few items to fit the situation of quality managers within the Egyptian manufacturing companies as research field.

Independent Variables and Measures

The researcher employs the pretested items (see Table 1): (1) the items developed by Guay et al. (2000) for the concept of Motivation (14 items); (2) Role Overload taken from the scale developed by Reilly (1982) for the concept of Resource Capacity (6 items) ; (4) the scale developed by Parasuraman et al. (1988) for the Top Management Support concept (11 items); and (4) the Role Ambiguity and idiosyncratic understanding scale developed by Rizzo et al. (1970) for the concept of quality policy & procedures (12 items). Finally, the total number of items used in the instrument is 45. The four barriers were measured on a Five-Point Likert Scale, ranging from 1 ('disagree') to 5 ('agree'). The reliability and validity of these newly developed items are good. The confirmatory factor analysis revealed a model with a good fit. In addition, a factor analysis was carried out for each of the four concepts separately.

Dependent Variable and Measure

The quality implementation effectiveness is defined as the satisfaction felt by quality managers, as implementers of quality activities and practices. As it is the perceived effectiveness of the implementation process that is of interest, quality managers were also asked to rate their level of satisfaction with the way they execute quality management activities and practices at the operational level. The researcher measures this satisfaction on the basis of an indication of quality managers' perceived effectiveness in implementing the following four quality management activities and practices based on (Irianto 2005): quality assurance, quality control and quality improvement measures and methods. Finally, the total number of quality management effectiveness items used in the instrument is 15. Likert scale ranging from 1 ('not satisfied') to 5 ('very satisfied') is also used for these items; finally the 15 items of the effectiveness were also subjected to a factor analysis.

Sample and Procedure

The researcher carried out an empirical survey that covered quality managers in Egyptian manufacturing companies (located in 10th of Ramadan Industrial City). A total of 200 self-administrated questionnaires were distributed within these industrial companies and the response was 135 complete questionnaires. The research random sample is 130 quality managers. For measuring the independent four variables and the dependent variable, quality managers received a questionnaire with (43 and 15 items). When constructing the variables items, the researcher tried to ensure content validity in each one. In order to use items that are likely to produce a good content validity, the researcher used pre-tested scales found in the quality management literature that are regarded as reliable. The variables items were also carefully translated into Arabic Language that more appropriate for the quality managers, and the reliability and validity of these items were also then re-tested for this specific research domain.

Research Results

After responded questionnaires have been completed and returned, the researcher then accumulated them together and arranged in an order that will enable him to start the statistical analysis process. The estimating regression model was the first step in this statistical process. The results of research hypotheses testing are presented in tables and the discussion is presented below step by step: First: the researcher ensures consistency in the questionnaire answers (quality managers' responds) through standard deviations which should be low. This indicates that a low variance from the mean value founded in the statistical analysis process. In Table 2 the standard deviation of all research variables are presented: Numbers in Table 2 demonstrate that the mean is a good reflection of the dada gathered.

Table 2: Standard Deviations of the Research Variables

Research Variables	Standard Deviations
Motivation	0.62
Resources Capacity	0.71
Top Management Support	0.82
Quality Management Policies	0.77
Quality Implementation Effectiveness	0.84

Second: the research variables, items and Cronbach's Alpha are presented in Table 3. The reliability and validity of the research developed items are sufficient. The confirmatory factor analysis indicates a model that fit for purpose. The researcher conducted a factor analysis for each of the four independent variables separately. The goodness of fit and RMSEA measures respectively for each independent variable are as: 0.92 and 0.7 for motivation; 0.98 and 0.58 for resources capacity; 0.96 and 0.67 for top management; 0.91 and 0.77 for quality management policies.

Table 3: Variables Items and Cronbach's Alpha

Variables	Items	Cronbach's Alpha
Motivation	14	0.77
Resources Capacity	6	0.80
Top Management Support	11	0.88
Quality Management Policies	12	0.69
Quality Implementation Effectiveness	15	0.84

Third: to reduce the risk of fake results due to correlations among research variables, the researcher control other variables in the statistical analysis process. One of these control variables is demographic variables such as age and experience. Quality managers who are older or more experienced may implement quality management practices and activities more effectively not because those managers have better motivation to perform these activities, but because they have done quality activities and practices more times than the younger colleagues. These two controlling variables are dummy coded (four age dummies and three experience dummies). Fourth: the researcher calculates the mean scores for the four independent variables; this calculation revealed that quality managers in the Egyptian context are motivating to conduct quality management practices and activities. In addition, quality managers have enough resources (in terms of staff and time). They also receive support from the top management and are provided with quality policies and procedures. These policies and procedures specify quality management activities and practices and the responsibility.

In Table 4 the means, standard deviations and correlations of research independent and dependent variables are demonstrated. The analysis shows that the means imply that quality managers in Egypt do not perceive many barriers in

their quality management implementation processes. In fact, all means of all independent variables are reasonably high (3.14 to 3.88). The results shows also that Egyptian quality managers who investigated are able to management their staff and time in their quality management activities and practices. They are high motivated to take responsibility and they find a value added of quality management role for reaching business goals. Furthermore managers receive a clear policies and procedures to fitful their function.

Table 4: Means, Standard Deviations and Correlations

	Means	Standard D	Motivation	Resource Capacity	Top Management Support	Quality Policies & Procedure	Age	Experience	Quality Imp. Effectiveness
Motivation	3.14	0.63	1						
Resources Capacity	3.88	0.49	0.47	1					
Top Management Support	3.78	0.59	0.29	0.09	1				
Quality Policies& Procedures	3.55	0.65	0.46	0.39	0.43	1			
Age	53.54	5.5	0.10	0.21	0.33	0.09	1		
Experience	4.01	2.01	0.20	0.18	0.11	0.12	0.50	1	
Quality Implementation Effectiveness	3.6	0.50	0.28	0.29	0.31	0.34	0.20	0.19	1

For examples resources capacity variable, the deviation from the mean is reasonably low (s. d. 0.49) and this indication that quality managers do not differ in their available capacities (staff and time) to implement quality management practices and activities. The mean' managers score for quality management implementation effectiveness is 3.6. This means that quality managers are satisfied with the quality implementation level at operational level. The researcher conducted a multiple regression analysis in order to test the research hypotheses. Testing hypotheses process proposes that all independent variables have a direct effect on the dependent variable and all independent variables are correlated with each other. Finally the demographic control variables are also added as seen in the correlation matrix (Table 4).

The researcher uses two regression models: the first one without control variables and the second one with demographic controlling variables. In the first model the researcher finds that the motivation, resources capacity, management support and quality policies have a significant effect on quality managers' implementation effectiveness. The most powerful factor for effective quality management effectiveness is (Top management Support or Quality Polices) this means the more support/clear quality policies quality managers receive from top management, the more effect they implement quality management practices and activities (see Table 5).

The researcher finds that the demographic characteristic of quality managers seems to have marginal effect on the relationship between independents and dependent variables. In other terms, the percentage of the variability in the implementation effectiveness of quality management that is explained by the four factors increases in very low amount when the control variables are included (as shown by the very small increasing in the R squared value from 0.23 to 0.27). It also clear that F-ratio decreases (from 3.62 to 1.91) by adding control variables and implying that the regression model predicts implementation effectiveness of quality management better the regression model with the controlling variables:

Table 5: Multiple Regression Analysis

	Model 1	Model 2
Constant	3.21	3.32
Motivation	0.36	0.31
Resources Capacity	0.22	0.26
Top Management Support	0.25	0.27
Quality Policies & Procedures	0.30	0.28
30-40 age		0.50
41-50 age		0.70
1-5 years experiences		0.15
6-10 years experiences		0.17
N	61	63
F	3.62	1.97
R square	0.23	0.27
Adj. R square	0.18	0.19

Regarding to hypothesis one, there is a positive relationship between quality managers' motivation and their implementation effectiveness of quality management. The researcher concludes that there is a significant positive relationship at 90% for both model one and two. as a result, hypothesis one is supported and confirmed at 90% confidence level.

Regarding to hypothesis two, the researcher concludes that it is also supported. The more sources capacity quality managers have to implement quality management, the more effectively they will implement quality management activities and practices.

Regarding to hypothesis three, the research finds a positive relationship between the top management supports the manager receive and the effectiveness of their quality management implementation. Models one and two confirm this hypothesis because an increase in support factor by 1000 unites leads to a positive increase in implemented quality management practices and activities effectiveness of 250 units (see Table 5). The researcher concludes that this hypothesis is confirmed.

Finally hypothesis four, quality policies and procedures factor is also proved to be significantly and positive related to implementation effectiveness of quality management. Therefore, this research hypothesis (No. 4) is also confirmed.

DISCUSSIONS

The research results are consistent with the devolution literature. The researcher found that quality managers are less constrained in performing their quality management responsibilities. Quality managers always accept their quality implementation role and try to find ways to carry out the quality management expected activities and practices (Sany et al. 2013). The research results have highlighted the importance of the four factors (motivation, resources, support and policies) and this should be taken into account when researching the quality management in other countries. Furthermore, the differences in implementation effectiveness of quality management among organizations or even countries can be explained by the way organizations handle these four factors.

According to Irianto (2005) quality managers need to have both personal and institutional incentives to implement quality management effectively. Accordingly, the research findings are referring to that the institutional factors are more critical comparing with the personal factors. As quality managers want to know what they have to do and they do not have

to like it. More and better policies and procedures lead to more effective implementation of quality management. Quality managers are satisfied with the amount and quality of the policies and procedures they receive. As a result, the way in which they implement quality management is improved simply because policies and procedures are helpful, provide role descriptions, and tell them which practices they are responsible for. This also indicates that quality managers prefer standardized instruments and depersonalized procedures to evaluate their effectiveness. In addition, the motivation of the quality mangers is found to significantly positive related to quality management implementation. The more motivated quality managers, the better they are implementing quality management. The reason is the more quality managers want to do the task, the more they implement according to the quality guidelines and rules.

Theoretical and Practical Implications

Previous research in quality management identified a number of factors that could constrain the implementation (Irianto 2005). This research has concluded that while quality managers in Egypt perceived these four factors to be relevant they, managers, do not perceive these factors as very constraining in a negative way. In other words, on one hand previous researchers have only studied the negative effect of quality management implementation' barriers/factors on the effectiveness. But on the other hand, the current research has investigated these relationships and concluded that these barriers or factors have an impact on the effectiveness of quality management implementation but not as a casual relationship.

Because these identified factors are relevant, the researcher developed scales to measure, validate them and then build a research instrument. This research instrument has theoretical implication in quality management literature such as giving other researchers an opportunity to: 1) measure quality management implementation constrains, 2) investigate quality management constrains in other organization such as service organizations.

For practical implications, the research instrument and scales are valuable for quality managers to identifying which factors hindering the implementation effectiveness of quality management. By doing so, organizations can support their managers in improving their implementations abilities. The research instrument also shed light on the importance of organizations' policies and procedures and how organizations should not ignore such policies and update them. Also, job descriptions and performance appraisal covering quality management responsibilities are ways to communicate the importance and relevance of effective quality management implementation. Furthermore, organizations should ensure that their quality managers supported by senior or top management team.

CONCULSIONS

Limitations and Future Research

The explored four factors in this research are not theoretically based nor developed from the theory. As a result, this lack of a theoretical establishment needs to be addressed in further research. This need for a theoretical basis is also more important when the discovered factors are not relevant. Further research also could investigate any moderation effects of these four factors. Such as role ambiguity and role conflict could mediate the relationships between management support and quality management effectiveness. The current research focuses on quality managers' perspectives; further research should extend its focus on quality managers and their subordinates and also should measure the relationship between quality managers and their subordinates in the quality management implementation process.

REFERENCES

1. Aghazadeh S. (2002) "Implementation of total quality management in the managed care industry", The TQM Magazine, Vol. 14 Iss: 2, pp.79 – 9.
2. Ali, A. (1998) “The typology of the Arab individual: implications for management and Business Organizations”. International Journal of Sociology and Social Policy, 18 (11/12), pp. 1-19.
3. Asif M., Bruijn J., Douglas A. and Fisscher, O. (2009) "Why quality management programs fail: A strategic and operations management perspective", International Journal of Quality & Reliability Management, Vol. 26 Iss: 8, pp.778 – 794.
4. Badri, M. A. Davis D. and Davis D., (1995) "A study of measuring the critical factors of quality management", International Journal of Quality & Reliability Management, Vol. 12 Iss: 2, pp.36 – 53.
5. Baidoun S. (2003) "An empirical study of critical factors of TQM in Palestinian organizations", Logistics Information Management, Vol. 16 Iss: 2, pp.156 – 171.
6. Bell M, and Omachonu V. (2011) "Quality system implementation process for business success", International Journal of Quality & Reliability Management, Vol. 28 Iss: 7, pp.723 – 734.
7. Bernardo M, Casadesus M, Karapetrovic S., and Heras I. (2012) "Integration of standardized management systems: does the implementation order matter?", International Journal of Operations & Production Management, Vol. 32 Iss: 3, pp.291 – 307.
8. Chang P., and Lu K. (1995) "Current status of total quality management implementation in Taiwan companies", The TQM Magazine, Vol. 7 Iss: 1, pp.14 – 19.
9. Conti, T. (2010) "Systems thinking in quality management", The TQM Journal, Vol. 22 Iss: 4, pp.352 – 368.
10. Dickenson R.P., Campbell D.R. and Azarov V. N., (2000) "Quality management implementation in Russia: Strategies for change", International Journal of Quality & Reliability Management, Vol. 17 Iss: 1, pp.66 – 82.
11. Drew, E. and Healy, C. (2006) "Quality management approaches in Irish organisations", The TQM Magazine, Vol. 18 Iss: 4, pp.358 – 371.
12. Guay, F., Vallerand, R. J., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: the situational motivation scale (SIMS). Motivation and Emotion, 24 (3), 175-213.
13. Iden J. (2012) "Investigating process management in firms with quality systems: a multi-case study",Business Process Management Journal, Vol. 18 Iss: 1, pp.104 – 121.
14. Irianto D. (2005) “Quality management implementation: A multiple case study in Indonesian manufacturing firms” Ph.D Dissertation, Twente University, The Netherlands.
15. Kemenade , E. (2014) "Theory C: the near future of quality management", The TQM Journal, Vol. 26 Iss: 6, pp.650 – 657.
16. Khanna, H. K., Sharma, D.D., and Laroiya, S.C. (2011) "Identifying and ranking critical success factors for implementation of total quality management in the Indian manufacturing industry using TOPSIS", Asian Journal

on Quality, Vol. 12 Iss: 1, pp.124 – 138.

17. Lagrosen, S. (2003) "Exploring the impact of culture on quality management", International Journal of Quality & Reliability Management, Vol. 20 Iss: 4, pp.473 – 487.
18. Lagrosen S. (2007) "Quality management and environment: exploring the connections", International Journal of Quality & Reliability Management, Vol. 24 Iss: 4, pp.333 – 346.
19. Lagrosen S., and Lagrosen Y. (2006) "A dive into the depths of quality management", European Business Review, Vol. 18 Iss: 2, pp.84 – 96.
20. Lagrosen Y, Travis F, and Lagrosen S. (2012) "Brain integration as a driver for quality management success", International Journal of Quality and Service Sciences, Vol. 4 Iss: 3, pp.253 – 269.
21. McGovern, P., Gratton, L., Hope-Hailey, V., Stiles, P., & Truss, C. (1997). Human resource
22. management on the line? Human Resource Management Journal, 7 (4), 12-29.
23. Mosadeghrad, A. M. (2013) "Obstacles to TQM success in health care systems", International Journal of Health Care Quality Assurance, Vol. 26 Iss: 2, pp.147 – 173.
24. Palmberg, K., and Garvare, R. (2006) "Sustained quality management: how to receive the Swedish quality award twice", International Journal of Quality & Reliability Management, Vol. 23 Iss: 1, pp.42 – 59.
25. Parast M. (2013) "Convergence theory in quality management: evidence from the petroleum industry", International Journal of Quality & Reliability Management, Vol. 30 Iss: 2, pp.177 – 196.
26. Pronovost , P.J and Marsteller , J. A. (2014) "Creating a fractal-based quality management infrastructure", Journal of Health Organization and Management, Vol. 28 Iss: 4, pp.576 – 586.
27. Reilly, M. D. (1982). Working wives and convenience consumption. The Journal of Consumer Research, 8 (4), 407-418.
28. Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. Administrative Science Quarterly, 15 (2), 150-163.
29. Rohitratana K., and Boon-itt S. (2001) "Quality standard implementation in the Thai seafood processing industry", British Food Journal, Vol. 103 Iss: 9, pp.623 – 630.
30. Rönnbäck A., and Eriksson H. (2012) "A case study on quality management and digital innovation: Relationship and learning aspects", International Journal of Quality and Service Sciences, Vol. 4 Iss: 4, pp.408 – 422.
31. Salaheldin S. I., (2003) "The implementation of TQM strategy in Egypt: a field-force analysis", The TQM Magazine, Vol. 15 Iss: 4, pp.266 – 274.
32. Sany S., Nur A., Nordin K. and Mohd I., (2013) "Sustaining a quality management system: process, issues and challenges", Business Strategy Series, Vol. 14 Iss: 4, pp.123 – 130.
33. Sharabi, M. (2013) "Managing and improving service quality in higher education", International Journal of Quality and Service Sciences, Vol. 5 Iss: 3, pp.309 – 320.

34. White, G.R.T., Samson, P., Rowland-Jones R., and Thomas, A.J. (2009) "The implementation of a quality management system in the not-for-profit sector", The TQM Journal, Vol. 21 Iss: 3, pp.273 – 283.

35. Xiaofen, T. (2013) "Investigation on quality management maturity of Shanghai enterprises", The TQM Journal, Vol. 25 Iss: 4, pp.417 – 430.

36. Xingxing Zu, (2009) "Infrastructure and core quality management practices: how do they affect quality?",International Journal of Quality & Reliability Management, Vol. 26 Iss: 2, pp.129 - 149

37. Zu X, Zhou H, Zhu X, and Yao D. (2011) "Quality management in China: the effects of firm characteristics and cultural profile", International Journal of Quality & Reliability Management, Vol. 28 Iss: 8, pp.800 – 821.